

IN THE CLAIMS

1. (Previously Amended) Multi-element impedance probe apparatus, adapted to produce an image of a body tissue, having a structure, comprising:
 - a raster of sensors, comprised of a substantially radiolucent, conductive material;
 - substantially radiolucent conductive wiring, forming conductive connections with the sensors;
 - a substantially radiolucent substrate, on which the sensors are mounted; and
 - a non-radiolucent aligning feature.
2. (original) Apparatus according to claim 1, comprising two impedance probes which operate in tandem, one acting as an electrifying source and the other as a sensor.
3. (Previously Amended) Apparatus according to claim 1, and including a conductive layered structure, covering the raster of the sensors and suitable for providing an interface between the sensors and the tissue.
4. (original) Apparatus according to claim 3, wherein the structure comprises a material having conductivity substantially similar to the conductivity of the tissue.
5. (Previously Amended) Apparatus according to claim 3, wherein the structure is radiolucent.
6. (cancelled)
7. (Previously Amended) Apparatus according to claim 1, wherein the aligning feature comprises at least one alignment mark that is opaque to x-rays.
8. (Previously Amended) Apparatus according to claim 1, wherein the aligning feature comprises at least one alignment mark that emits γ rays.
9. (Previously Amended) Apparatus according to claim 1, wherein the aligning feature comprises at least one alignment mark that emits pairs of positrons.

10. (Previously Amended) Apparatus according to claim 1, wherein the aligning feature comprises at least two lines, a substantial distance apart with respect to the size of the impedance probe.

11. (Previously Amended) Apparatus according to claim 1, wherein the aligning feature comprises at least two intersections, a substantial distance apart with respect to the size of the impedance probe.

12. (Previously Amended) Apparatus according to claim 1, wherein the aligning feature comprises an outline of the probe painted on a surface against which the impedance probe is positioned.

13. (Previously Amended) Apparatus according to claim 1, wherein the aligning feature comprises a detachable mount to which the impedance probe is attached during operation thereof.

14. (Previously Amended) Apparatus for tissue examination comprising:

an impedance imager comprising at least one impedance probe with a first field of view and adapted to produce an impedance image of a body tissue, referenced to a reference indicator; and

at least one additional imager of a nuclear imaging modality, having a second field of view, at least partially common to the first field of view, and adapted to produce an image of body tissue, referenced to the reference indicator.

15. (cancelled)

16. (Previously Amended) Apparatus according to claim 14, wherein the reference indicator is comprised in a structure that provides positioning of at least one of the imagers.

17. (Previously Amended) Apparatus according to claim 14, wherein the impedance imager and the at least one additional imager form an integral unit.

18. (Previously Amended) Apparatus according to claim 14, wherein:

the impedance imager is a first module; and

each additional imager is an additional module,
wherein the modules may be used independently or together.

19. (Previously Amended) Apparatus according to claims 14 and including a processing unit common to the impedance imager and the at least one additional imager for processing the images.

20. (Previously Amended) Apparatus according to claim 14 and including a display unit common to the impedance imager and the at least one additional imager, wherein the display unit is operative to selectively display each image individually or the images superimposed.

21. (Previously Amended) Apparatus according to claim 14 and including a control panel common to the impedance imager and the at least one additional imager.

22. (Previously Amended) Apparatus according to claim 14 and including a biopsy device, adapted to perform biopsy on the tissue.

23-24. (cancelled)

25. (Previously Amended) Apparatus for x-ray mammography and impedance imaging, comprising:

an x-ray tube, which produces a beam of x-rays;

a support plate, adapted to support a soft body tissue when it is irradiated by the x-ray tube;

an x-ray image receptor, associated with the support plate and adapted to produce an x-ray image of the tissue, referenced to a reference indicator;

an impedance imager, comprising at least one impedance probe, located between the x-ray tube and the x-ray image receptor, having a field of view that is at least partially common to a field of view of the x-ray tube and adapted to produce an image of body tissue, referenced to the reference indicator; and

an impedance imager receptor adapted to receive the impedance imager in a manner which allows the impedance probe to be removed, while the soft body tissue remains substantially in place.

26. (Previously Amended) Apparatus according to claim 25, and including a compression plate, adapted to travel between the x-ray tube and the support plate and to provide compression against the tissue.

27. (Previously Amended) Apparatus according to claim 25, wherein the at least one impedance probe is comprised in the compression plate.

28. (cancelled)

29. (Previously Amended) Apparatus according to claim 27, and including a gamma camera, having a field of view that is at least partially common to a field of view of the at least one impedance probe, wherein the gamma camera is adapted to produce a gamma-ray image of the tissue, referenced to the reference indicator.

30. (Previously Amended) Apparatus according to claim 14, wherein the at least one additional imager comprises a gamma camera.

31. (Previously Amended) Apparatus according to claim 30, wherein the at least one impedance probe is attached to the gamma camera with a fixed mechanical attachment, in a field of view of the gamma camera, at a specific distance from the gamma camera.

32. (Previously Amended) Apparatus according to claim 14, wherein the at least one additional imager comprises a SPECT imager.

33. (Previously Amended) Apparatus according to claim 14, wherein the at least one additional imager comprises a PET imager.

34. (Previously Amended) Apparatus according to claim 14, wherein the tissue is human tissue.

35-60. (cancelled)